Shape the future
The Standardization Council I4.0

STANDARDIZATION COUNCIL INDUSTRIE 4.0

EU Stakeholder Conference Essen
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a joint project of:

bitkom  ZVEI: Die Elektroindustrie  VDMA  DKE VDE e.V.  DIN
Strategic Orientation

- The Standardization Council has the task to coordinate standardization and regulation work in the field of Industrie 4.0 in Germany and beyond.

- The Standardization Council represents the interests of industry in the field of national, European and international standardization in the context of the digitization of industry. It actively promotes international cooperation.
**INDUSTRIE4.0**

**Standardization Strategy**

- Office DKE
- Advisory Board
- Steering Committee
- Expert Panel

**Standardization Process-Support**

- Coordination Recommendations Support

**Standardization Implementation**

- Use Cases
- Test
- Validation

**Office DKE**

**Advisory Board**

**Steering Committee**

**Expert Panel**

**Proposals for international Standards**

- DIN, DKE
- CEN/CENELEC, ETSI
- IEC, ISO

- Int. standardization organizations (with mandate)

*de facto standard, open source (consortial-consensus)*

*International standard (full consensus)*
Plattform I4.0 is extended by SCI4.0 and LNI4.0

- Development of recommendations / strategical directions
- Network of Enterprises, SMEs and digital industry
- International Cooperations

Digital Transformation

- Initiation of cross-sectoral standards
- Coordination of national and international standards
- Strengthening international co-operations

- Network of test labs
- Practical testing
- Validated feedback of findings for standardization
Plattform  I4.0 approach at a glance

RAMI 4.0

Industrie 4.0 Component

Common Semantic
• Agreeing on a uniform reference architecture model for structuring further standards work is extremely important.

**I4.0 Component**

Asset + Administration shell form the I4.0 component

Administration shell is the “digital twin” towards the I4.0 world

Semantics – the basis for communication

For easy operability an common language (words and semantic) is needed

Basic common rules for semantic, individual definitions in the different domains
Bilateral work with consortias

A network of cross-connected standards are the basis for Industrie 4.0

- ISO/IEC JTC1
- IEC/ISO JWG21
- IEC 61987 Sensors
  - IEC 62883 Switch Gears
  - 30 Segments with product families
- PLC Open e.V.
- IEC 61360 Rules for Properties
- IEC 61387 Sensors Prop.
- IEC 62683 Switch Gears Prop.
- IEC 62832 Digital Factory
- IEC 62443 Security in Automation
- AutomationML e.V.
- OPC-Foundation
- ProSTEP e.V.
- PLC Technologies IEC 61131
- Engineering data AutomationML IEC 62714
- Services
  - IEC 62541
  - OPC-UA and Companions
- Time Sensitive Networks Technologies for IoT
- IEEE
- ETSI/3GPP
- ITU-T
- ITU-R
- mission critical networks (5G)
- SDR | VNF | Network Slicing
- IoT Standardisation Radiospectrum for I4.0
- Quelle: Heidel, SIEMENS, Hoffmeister, FESTO
- Security
  - ISO/IEC 2700x
- NEW IEC/ISO Reference Model
- National Electric Trade e.V.
• Work with international forums and consortia needs to be intensified in order to ensure interoperability in Industry 4.0.

• Cooperation at EU and international level is absolutely essential for opening up the way towards truly global standards and ensuring all stakeholders speak the same language.
Bilateral work with other countries

- Connecting of the industry community
- Defining joint working items
- Setting up co-partnerships
- Setting up working groups
- Closer international cooperation

…for Standardization
Requirements for successful I4.0

- National standards to be consolidated on international level
- Efficient collaboration between international standardization organizations
- Worldwide accepted reference model enriched by open source reference implementation
- Network of test centers for access to SMEs
- Aspects of standardization are integrated into national and international research projects. Standardization is taken into account from the very beginning.
Together with you towards success ...